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FILE 'USPAT' ENTERED AT 09:01:57 ON 02 MAY 95
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*           W E L C O M E   T O   T H E           *
*           U. S.   P A T E N T   T E X T   F I L E           *
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=> s polyvinyl chloride
    90360 POLYVINYL
    256739 CHLORIDE
L1      42346 POLYVINYL CHLORIDE
        (POLYVINYL(W)CHLORIDE)
=> s polyurethane
L2      58907 POLYURETHANE
=> s alkyl phthalic ester
    200743 ALKYL
    25256 PHTHALIC
    133681 ESTER
L3      0 ALKYL PHTHALIC ESTER
        (ALKYL(W)PHTHALIC(W)ESTER)
=> s aliphatic polyurethane
    117221 ALIPHATIC
    58907 POLYURETHANE
L4      311 ALIPHATIC POLYURETHANE
        (ALIPHATIC(W)POLYURETHANE)
=> s vinyl chloride resin
    120738 VINYL
    256739 CHLORIDE

    210334 RESIN

L5      2442 VINYL CHLORIDE RESIN
        (VINYL(W)CHLORIDE(W)RESIN)
=> d his
    (FILE 'USPAT' ENTERED AT 09:01:57 ON 02 MAY 95)
L1      42346 S POLYVINYL CHLORIDE
L2      58907 S POLYURETHANE
L3      0 S ALKYL PHTHALIC ESTER
L4      311 S ALIPHATIC POLYURETHANE
L5      2442 S VINYL CHLORIDE RESIN
=> s alkyl(p)phthalic ester
    200743 ALKYL
    25256 PHTHALIC
    133681 ESTER
    179 PHTHALIC ESTER
        (PHTHALIC(W)ESTER)
L6      14 ALKYL(P)PHTHALIC ESTER
=> s thermoplastic and aliphatic polyurethane
    81064 THERMOPLASTIC
    117221 ALIPHATIC
    58907 POLYURETHANE
    311 ALIPHATIC POLYURETHANE
        (ALIPHATIC(W)POLYURETHANE)
L7      120 THERMOPLASTIC AND ALIPHATIC POLYURETHANE
=> s pad
L8      85145 PAD
=> s steering wheel
    37823 STEERING
    163767 WHEEL

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L9 10529 STEERING WHEEL
 (STEERING(W)WHEEL)
 => s 18 and 19
 L10 692 L8 AND L9
 => d his
 (FILE 'USPAT' ENTERED AT 09:01:57 ON 02 MAY 95)
 L1 42346 S POLYVINYL CHLORIDE
 L2 58907 S POLYURETHANE
 L3 0 S ALKYL PHTHALIC ESTER
 L4 311 S ALIPHATIC POLYURETHANE
 L5 2442 S VINYL CHLORIDE RESIN
 L6 14 S ALKYL(P)PHTHALIC ESTER
 L7 120 S THERMOPLASTIC AND ALIPHATIC POLYURETHANE
 L8 85145 S PAD
 L9 10529 S STEERING WHEEL
 L10 692 S L8 AND L9
 => s 11 and 12 and 17
 L11 25 L1 AND L2 AND L7
 => s 16 and 111
 L12 0 L6 AND L11
 => s 15 and 12 and 14
 L13 0 L5 AND L2 AND L4
 => s 12 and 15
 L14 728 L2 AND L5
 => s 114 and 16
 L15 0 L14 AND L6
 => s phthalic ester
 25256 PHTHALIC
 133681 ESTER
 L16 179 PHTHALIC ESTER
 (PHTHALIC(W)ESTER)
 => s 116 and 12 and 15
 L17 3 L16 AND L2 AND L5
 => d 117 cit ab 1-3

1. 5,229,259, Jul. 20, 1993, Silver halide photographic material; Minoru Yokota, 430/523; 252/62.56, 62.58; 428/692, 694R; 430/22, 39, 140, 531, 536, 539 [IMAGE AVAILABLE]

US PAT NO: 5,229,259 [IMAGE AVAILABLE]

L17: 1 of 3

ABSTRACT:

Disclosed is a silver halide photographic material comprising a silver halide emulsion layer on at least one side of a support and at least one magnetic recording layer on at least one side of the support, and the magnetic recording layer is transparent and comprises a ferromagnetic powder, a silica and alumina co-precipitate on the surface of the ferromagnetic powder, and a binder.

2. 5,015,531, May 14, 1991, Vinyl chloride-coated steel sheet; Shuichi Moriizumi, et al., 428/463; 156/243, 307.3, 307.7; 428/520 [IMAGE AVAILABLE]

US PAT NO: 5,015,531 [IMAGE AVAILABLE]

L17: 2 of 3

ABSTRACT:

A method of manufacturing a vinyl chloride-coated steel sheet involving

the steps of coating electron ray curable adhesives on the surface of the thin metal sheet, such as a zinc plated steel sheet or cold rolled steel sheet, laminating a vinyl choride film of decorative and corrosion resistant protecting property to the coated surface and irradiating electron rays the upper surface of the coated sheet with thereby bonding the film with the metal sheet as raw material, wherein the vinyl chloride film is formed by applying a calendering or extruding process to a blend including a **vinyl** **chloride** **resin** obtained by suspension polymerization and, from 20 to 40 parts by weight of a plasticizer, dialkyl tin mercaptide type stabilizer, an acryl oligomer type lubricant and, optionally, pigments and other ingredients. Combined use of the dialyl in mercaptide stabilizer and the acryl oligomer lubricant has been found to be particularly suitable for electron ray irradiation, as well as to the subsequent UV-ray exposure which would otherwise cause significant degradation in the vinyl chloride coating.

3. 4,985,104, Jan. 15, 1991, Method of manufacturing a vinyl chloride-coated metal sheet; Shuichi Moriizumi, et al., 156/244.11, 244.17, 244.24, 272.2, 275.3, 275.7, 307.3, 307.7; 427/505, 506 [IMAGE AVAILABLE]

US PAT NO: 4,985,104 [IMAGE AVAILABLE]

L17: 3 of 3

ABSTRACT:

A method of manufacturing a vinyl chloride-coated steel sheet involving the steps of coating electron ray curable adhesives on the surface of a thin metal sheet, such as a zinc plated steel sheet or cold rolled steel sheet, laminating a vinyl chloride film of decorative and corrosion resistant protecting properties to the coated surface and irradiating the upper surface of the coated sheet with electron rays thereby bonding the film with the metal sheet, wherein the vinyl chloride film is formed by applying a calendering or extruding process to a blend including a **vinyl** **chloride** **resin** obtained by suspension polymerization and from 20 to 40 parts by weight of a plasticizer, dialkyl tin mercaptide type stabilizer, an acryl oligomer type lubricant and optionally, pigments and other ingredients. Combined use of the dialkyl tin mercaptide stabilizer and the acryl oligomer lubricant has been found to be particularly suitable for electron ray irradiation, as well as to the subsequent UV-ray exposure which would otherwise cause significant degradation in the vinyl chloride coating.

=> s 525/clas

L18 49371 525/CLAS

=> s 524/clas

L19 57973 524/CLAS

=> d his

(FILE 'USPAT' ENTERED AT 09:01:57 ON 02 MAY 95)

L1 42346 S POLYVINYL CHLORIDE

L2 58907 S POLYURETHANE

L3 0 S ALKYL PHTHALIC ESTER

L4 311 S ALIPHATIC POLYURETHANE

L5 2442 S VINYL CHLORIDE RESIN

L6 14 S ALKYL(P)PHTHALIC ESTER

L7 120 S THERMOPLASTIC AND ALIPHATIC POLYURETHANE

L8 85145 S PAD

L9 10529 S STEERING WHEEL

L10 692 S L8 AND L9

L11 25 S L1 AND L2 AND L7
 L12 0 S L6 AND L11
 L13 0 S L5 AND L2 AND L4
 L14 728 S L2 AND L5
 L15 0 S L14 AND L6
 L16 179 S PHTHALIC ESTER
 L17 3 S L16 AND L2 AND L5
 L18 49371 S 525/CLAS
 L19 57973 S 524/CLAS
 => s 110 and 15 and 17
 L20 0 L10 AND L5 AND L7
 => s 110 and 15
 L21 6 L10 AND L5
 => s 110 and 17
 L22 0 L10 AND L7
 => s 110 and 116
 L23 0 L10 AND L16
 => s vinyl chloride and polyurethane and phthalic ester
 120738 VINYL
 256739 CHLORIDE

 29830 VINYL CHLORIDE
 (VINYL(W)CHLORIDE)
 58907 POLYURETHANE
 25256 PHTHALIC
 133681 ESTER
 179 PHTHALIC ESTER
 (PHTHALIC(W)ESTER)
 L24 15 VINYL CHLORIDE AND POLYURETHANE AND PHTHALIC ESTER
 => d 124 cit ab 1-15

1. 5,362,874, Nov. 8, 1994, Light-sensitive bistrihalomethyl-s-triazine compounds; Ken Iwakura, et al., 544/216 [IMAGE AVAILABLE]

US PAT NO: 5,362,874 [IMAGE AVAILABLE] L24: 1 of 15

ABSTRACT:

A novel light-sensitive bistrihalomethyl-s-triazine compound is provided, which is represented by the general formula (I): ##STR1## wherein T represents a (4,6-bistrihalomethyl-S-triazine-2-yl) group; Y represents a divalent group; and the benzene rings may further contain substituents; a novel photopolymerizable composition containing the same and a light- and heat-sensitive recording material containing the same.

2. 5,324,605, Jun. 28, 1994, Electrophotographic plate with an arylamine-containing photosensitive layer; Hitoshi Ono, et al., 430/59, 56, 73, 75, 76 [IMAGE AVAILABLE]

US PAT NO: 5,324,605 [IMAGE AVAILABLE] L24: 2 of 15

ABSTRACT:

An electrophotographic photoreceptor comprising an electrically conductive support and a photosensitive layer formed thereon, wherein said photosensitive layer contains an arylamine compound of the formula (I): ##STR1## wherein each of Ar.sup.1, Ar.sup.2, Ar.sup.3 and Ar.sup.4 which may be the same or different, is an aryl group which may have substituents, or a heterocyclic group which may have substituents, each of R.sup.1, R.sup.2, R.sup.3, R.sup.4, R.sup.5 and R.sup.6 which may be

the same or different, is a hydrogen atom, a hydroxyl group, a halogen atom, an alkyl group which may have substituents, an alkoxy group which may have substituents, or a phenyl group which may have substituents, and each of R.sup.7 and R.sup.8 which may be the same or different, is a hydrogen atom, a halogen atom, an alkyl group which may have substituents, or an alkoxy group which may have substituents.

3. 5,284,728, Feb. 8, 1994, Electrophotographic photoreceptor containing hydrazone compounds; Tetsuo Murayama, et al., 430/59, 73 [IMAGE AVAILABLE]

US PAT NO: 5,284,728 [IMAGE AVAILABLE]

L24: 3 of 15

ABSTRACT:

An electrophotographic photoreceptor comprising an electrically conductive support and a photosensitive layer formed thereon, wherein said photosensitive layer contains at least one member selected from the group consisting of hydrazone compounds of the formulas (I), (II) and (III): ##STR1## wherein X is a hydrogen atom or a group of the formula (IV):

--C(R.sup.8).dbd.N--Q.sup.2 (IV)
Q.sup.1 is a group of the formula (V), (VI), (VII), (VIII) or (IX);
Q.sup.2 is a group of the formula (VI), (VII), (VIII), (IX) or (X); each of Q.sup.3 and Q.sup.4 which may be the same or different, is a group of the formula (VI), (VII), (VIII), (IX) or (XI): ##STR2##

4. 5,229,259, Jul. 20, 1993, Silver halide photographic material; Minoru Yokota, 430/523; 252/62.56, 62.58; 428/692, 694R; 430/22, 39, 140, 531, 536, 539 [IMAGE AVAILABLE]

US PAT NO: 5,229,259 [IMAGE AVAILABLE]

L24: 4 of 15

ABSTRACT:

Disclosed is a silver halide photographic material comprising a silver halide emulsion layer on at least one side of a support and at least one magnetic recording layer on at least one side of the support, and the magnetic recording layer is transparent and comprises a ferromagnetic powder, a silica and alumina co-precipitate on the surface of the ferromagnetic powder, and a binder.

5. 5,168,025, Dec. 1, 1992, Electrophotographic photoreceptor; Hitoshi Ono, et al., 430/59, 70, 71, 72, 73, 74, 76, 77, 78, 83 [IMAGE AVAILABLE]

US PAT NO: 5,168,025 [IMAGE AVAILABLE]

L24: 5 of 15

ABSTRACT:

An electrophotographic photoreceptor comprising an electrically conductive support and a photosensitive layer formed thereon, wherein said photosensitive layer contains an arylamine compound of the formula (I): ##STR1## wherein each of Ar.sup.1 and Ar.sup.2 which may be the same or different, is an arylene group which may have substituents, each of R.sup.1, R.sup.2, R.sup.3 and R.sup.4 which may be the same or different, is an alkyl group which may have substituents, an aryl group which may have substituents, or a heterocyclic group which may have substituents, provided that R.sup.1 may, together with R.sup.2 or Ar.sup.1, form a ring containing the adjacent nitrogen atom, and R.sup.3 may, together with R.sup.4 or Ar.sup.2, form a ring containing the adjacent nitrogen atom,

each of R.sup.5, R.sup.6, R.sup.7 and R.sup.8 which may be the same or different, is a hydrogen atom, an alkyl group which may have substituents, an aryl group which may have substituents, or a heterocyclic group which may have substituents, and each of m and n which may be the same or different, is an integer of from 1 to 6.

6. 5,077,188, Dec. 31, 1991, Silver halide photographic light-sensitive material; Masaki Tanji, et al., 430/546, 552, 553, 567 [IMAGE AVAILABLE]

US PAT NO: 5,077,188 [IMAGE AVAILABLE]

L24: 6 of 15

ABSTRACT:

A silver halide photographic light-sensitive material is disclosed, which is improved in stability of cyan dye image formed therein. The light-sensitive material comprises a support having thereon a silver halide emulsion layer containing oleophilic dispersed particles. The particles comprises a cyan coupler represented by the following Formula I, an organic solvent selected from phthalic esters having a dielectrical constant of not more than 6.0 and a polymer compounds which is insoluble in water and soluble in a organic solvent: ##STR1## wherein R.sub.1 is a ballast group, R.sub.2 is an alkyl group having 2 or more carbon atoms and Z.sub.1 is a hydrogen atom or a substituent capable of splitting off upon reaction with the oxidation product of a color developing agent.

7. 5,034,243, Jul. 23, 1991, Method for magnetic orientation of magnetic recording medium using Meissner effect of high Tc superconductor; Katsuyoshi Chiba, et al., 505/171; 427/128, 130, 547, 549 [IMAGE AVAILABLE]

US PAT NO: 5,034,243 [IMAGE AVAILABLE]

L24: 7 of 15

ABSTRACT:

A method for magnetic orientation of a magnetic recording medium using Meissner effect of a superconductor and a system therefor and a magnetic recording medium produced thereby. The magnetic particles of plate hexagonal barium ferrite in the magnetic coating are allowed to orient in the longitudinal direction thereof so that a magnetic recording medium having a magnetic orientation in such direction with the magnetic particles can be obtained.

8. 5,015,531, May 14, 1991, **Vinyl** **chloride**-coated steel sheet; Shuichi Moriizumi, et al., 428/463; 156/243, 307.3, 307.7; 428/520 [IMAGE AVAILABLE]

US PAT NO: 5,015,531 [IMAGE AVAILABLE]

L24: 8 of 15

ABSTRACT:

A method of manufacturing a **vinyl** **chloride**-coated steel sheet involving the steps of coating electron ray curable adhesives on the surface of the thin metal sheet, such as a zinc plated steel sheet or cold rolled steel sheet, laminating a vinyl choride film of decorative and corrosion resistant protecting property to the coated surface and irradiating electron rays the upper surface of the coated sheet with thereby bonding the film with the metal sheet as raw material, wherein the **vinyl** **chloride** film is formed by applying a calendering or extruding process to a blend including a **vinyl** **chloride** resin obtained by suspension polymerization and, from 20 to 40 parts by weight of a plasticizer, dialkyl tin mercaptide type stabilizer, an acryl

oligomer type lubricant and, optionally, pigments and other ingredients. Combined use of the dialkyl tin mercaptide stabilizer and the acryl oligomer lubricant has been found to be particularly suitable for electron ray irradiation, as well as to the subsequent UV-ray exposure which would otherwise cause significant degradation in the ****vinyl**** ****chloride**** coating.

9. 4,985,104, Jan. 15, 1991, Method of manufacturing a ****vinyl**** ****chloride****-coated metal sheet; Shuichi Moriizumi, et al., 156/244.11, 244.17, 244.24, 272.2, 275.3, 275.7, 307.3, 307.7; 427/505, 506 [IMAGE AVAILABLE]

US PAT NO: 4,985,104 [IMAGE AVAILABLE]

L24: 9 of 15

ABSTRACT:

A method of manufacturing a ****vinyl**** ****chloride****-coated steel sheet involving the steps of coating electron ray curable adhesives on the surface of a thin metal sheet, such as a zinc plated steel sheet or cold rolled steel sheet, laminating a ****vinyl**** ****chloride**** film of decorative and corrosion resistant protecting properties to the coated surface and irradiating the upper surface of the coated sheet with electron rays thereby bonding the film with the metal sheet, wherein the ****vinyl**** ****chloride**** film is formed by applying a calendaring or extruding process to a blend including a ****vinyl**** ****chloride**** resin obtained by suspension polymerization and from 20 to 40 parts by weight of a plasticizer, dialkyl tin mercaptide type stabilizer, an acryl oligomer type lubricant and optionally, pigments and other ingredients. Combined use of the dialkyl tin mercaptide stabilizer and the acryl oligomer lubricant has been found to be particularly suitable for electron ray irradiation, as well as to the subsequent UV-ray exposure which would otherwise cause significant degradation in the ****vinyl**** ****chloride**** coating.

10. 4,899,323, Feb. 6, 1990, Anti-seismic device; Yoshihide Fukahori, et al., 367/176; 52/167.2, 167.7, 167.9; 248/560, 638 [IMAGE AVAILABLE]

US PAT NO: 4,899,323 [IMAGE AVAILABLE]

L24: 10 of 15

ABSTRACT:

An anti-seismic device which comprises anti-seismic rubber bearings and dampers arranged in parallel, the anti-seismic rubber bearing being formed by laminating a plurality of rigid hard plates and soft boards having a viscoelastic property one over another, the damper being composed mainly of a viscoelastic material having the physical properties (i) and (ii) defined below.
(i) the hysteresis ratio (h.sub.50) is greater than 0.3 at 50% tensile deformation at 25.degree. C.
(ii) the storage modulus (E) measured dynamically at a frequency of 5 Hz, a strain of 0.01%, and a temperature of 25.degree. C. is in the range of 1.ltoreq.E.ltoreq.2.times.10.sup.4 (kg/cm.sup.2).

11. 4,761,333, Aug. 2, 1988, Steering wheel; Masahiro Takimoto, et al., 428/327; 74/552, 558; 428/424.6, 424.7 [IMAGE AVAILABLE]

US PAT NO: 4,761,333 [IMAGE AVAILABLE]

L24: 11 of 15

ABSTRACT:

A steering wheel is described, which comprises a core that is covered

with a synthetic resin covering material which is overlaid with a coating film thereon, wherein said covering material is formed using an injection molding method by a resin composition that comprises 100 parts by weight of a polyvinyl chloride resin, 100 to 200 parts by weight of a phthalic acid ester based plasticizer represented by formula (I) and 10 to 40 parts by weight of an acrylonitrile-butadiene rubber: ##STR1## wherein R.sub.1 and R.sub.2 are each an alkyl group, provided that when the total number of mols of R.sub.1 and R.sub.2 is 100 mol, a monomethyloctyl group is present in an amount of 10 to 60 mols, while a dimethylheptyl group is present in an amount of 30 to 70 mols.

12. 4,699,817, Oct. 13, 1987, Magnetic recording medium; Kuniharu Fujiki, et al., 428/64; 252/62.54; 427/128; 428/65, 425.9, 480, 694BU, 695, 900 [IMAGE AVAILABLE]

US PAT NO: 4,699,817 [IMAGE AVAILABLE]

L24: 12 of 15

ABSTRACT:

Magnetic recording mediums comprising a nonmagnetic substrate and a magnetic recording layer formed on at least one side of the substrate. The magnetic recording layer is made of a composition which comprises magnetic particles dispersed in a combination of polyester and **polyurethane** resins and oleic acid, so that the magnetic medium is significantly improved in durability and lubricating property.

13. 4,485,160, Nov. 27, 1984, Electrophotographic hydrazone plate; Tetsumi Suzuki, et al., 430/59, 73; 564/251 [IMAGE AVAILABLE]

US PAT NO: 4,485,160 [IMAGE AVAILABLE]

L24: 13 of 15

ABSTRACT:

An electrophotographic plate comprising a photosensitive layer containing a hydrazone compound represented by the general formula: ##STR1## (where X, Y and Z represent independently hydrogen atom, a lower alkyl group, a lower alkoxy group, phenoxy group or an arylalkoxy group; R represents hydrogen atom, a lower alkyl group, allyl group, an aralkyl group or an optionally substituted phenyl group; m and l represent independently 1 or 2; and n represents 0 or 1).

14. 4,275,106, Jun. 23, 1981, Transfer sheet for polyamide articles; Tadao Watanabe, 428/200; 156/240, 249; 428/202, 207, 209, 344, 349, 355, 913, 914 [IMAGE AVAILABLE]

US PAT NO: 4,275,106 [IMAGE AVAILABLE]

L24: 14 of 15

ABSTRACT:

A transfer sheet which is used for transferring designs on to the surface of articles made of polyamide resin. The transferred design on the polyamide articles are excellent in appearance, durability and adhesiveness to the polyamide surfaces. The transfer sheet is basically composed of a backing material, a design layer and an adhesive layer and the invention is characterized in that said adhesive layer contains a varnish which is composed of: (A) nitrocellulose and (B) one member or a mixture of more members selected from the group consisting of **phthalic** **ester** plasticizers, fatty acid ester plasticizers, phosphoric ester plasticizers, epoxy plasticizers, alkyd resins and maleic acid resins.

15. 3,993,488, Nov. 23, 1976, Photographic film assembly comprising light intercepting elements located behind pressure plate; Yasushi Oishi, 354/276, 304; 430/497, 510, 941 [IMAGE AVAILABLE]

US PAT NO: 3,993,488 [IMAGE AVAILABLE]

L24: 15 of 15

ABSTRACT:

A photographic film assembly, which contains a plurality of light-sensitive sheets stacked in a planar parallel relationship between the front wall of a film container having a rectangular opening for exposure and a pressure plate in a planar parallel relationship with the front wall, each of the light-sensitive sheets comprising a transparent support having thereon, in sequence, at least one silver halide light-sensitive emulsion layer and an light-intercepting layer of a hydrophilic colloid containing a light absorbent in an amount necessary for preventing, upon exposure, a next light-sensitive sheet lying behind in the direction of exposure from being fogged, and each of the light-sensitive sheets being retained in the container with the support being directed toward the exposure opening.

=> s vinyl chloride(p)polyurethane(p)phthalic ester

120738 VINYL

256739 CHLORIDE

29830 VINYL CHLORIDE

(VINYL(W)CHLORIDE)

58907 POLYURETHANE

25256 PHTHALIC

133681 ESTER

179 PHTHALIC ESTER

(PHTHALIC(W)ESTER)

L25 0 VINYL CHLORIDE(P)POLYURETHANE(P)PHTHALIC ESTER

=> d his

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L1 42346 S POLYVINYL CHLORIDE

L2 58907 S POLYURETHANE

L3 0 S ALKYL PHTHALIC ESTER

L4 311 S ALIPHATIC POLYURETHANE

L5 2442 S VINYL CHLORIDE RESIN

L6 14 S ALKYL(P)PHTHALIC ESTER

L7 120 S THERMOPLASTIC AND ALIPHATIC POLYURETHANE

L8 85145 S PAD

L9 10529 S STEERING WHEEL

L10 692 S L8 AND L9

L11 25 S L1 AND L2 AND L7

L12 0 S L6 AND L11

L13 0 S L5 AND L2 AND L4

L14 728 S L2 AND L5

L15 0 S L14 AND L6

L16 179 S PHTHALIC ESTER

L17 3 S L16 AND L2 AND L5

L18 49371 S 525/CLAS

L19 57973 S 524/CLAS

L20 0 S L10 AND L5 AND L7

L21 6 S L10 AND L5

L22 0 S L10 AND L7

L23 0 S L10 AND L16

L24 15 S VINYL CHLORIDE AND POLYURETHANE AND PHTHALIC ESTER

L25 0 S VINYL CHLORIDE(P)POLYURETHANE(P)PHTHALIC ESTER

```
=> s vinyl chloride
    120738 VINYL
    256739 CHLORIDE

L26      29830 VINYL CHLORIDE
          (VINYL(W)CHLORIDE)

=> s phthalic ester
    25256 PHTHALIC
    133681 ESTER

L27      179 PHTHALIC ESTER
          (PHTHALIC(W)ESTER)

=> s 126 and 127
L28      44 L26 AND L27

=> s 128 and 14
L29      0 L28 AND L4

=> s 128 and 17
L30      0 L28 AND L7

=> s 126 and 14
L31      34 L26 AND L4

=> s 126 and 17
L32      17 L26 AND L7

=> d 132 cit ab 1-17
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1. 5,407,728, Apr. 18, 1995, Fabric containing graft polymer thereon; Richard C. Kerr, et al., 428/195; 8/115.65, 115.66, 115.67; 139/420A; 428/196, 225, 245, 260, 267, 290, 913 [IMAGE AVAILABLE]

US PAT NO: 5,407,728 [IMAGE AVAILABLE]

L32: 1 of 17

ABSTRACT:

A solution for forming a graft substrate containing a graft initiator, a catalyst for activating or regenerating the graft initiator, a first component of water dispersable polymer and a second component of a monomer, each of which includes a functional group for reaction with an activated site on the substrate for grafting thereto and water. A method for grafting at least one of the components to a fiber, yarn or fabric substrate is also disclosed wherein increased flame retarding and yarn integrity is achieved while simultaneously allowing control of fabric porosity. This method does not significantly reduce fabric pliability as compared to uncoated fabric. Furthermore, the graft component may be selectively applied polymer to produce a preferred porosity range or a cutting pattern for the fabric substrate. A fabric, a portion of which includes a graft component or components thereon, forms another embodiment of the invention.

2. 5,334,450, Aug. 2, 1994, Weatherable styrenic film structures with intermediate tie layer and laminates thereof; Vincent S. Zabrocki, et al., 428/332; 156/79, 196; 428/461, 462, 463, 515, 516 [IMAGE AVAILABLE]

US PAT NO: 5,334,450 [IMAGE AVAILABLE]

L32: 2 of 17

ABSTRACT:

A weatherable film for lamination to a non-weatherable substrate, including, for example a three-layer film structure including: at least one first surface layer of a weatherable polymer comprising (a) AES, ASA, SAN or mixtures thereof or (b) any of the polymers of (a) blended with PVC, CPE, aliphatic polyurethanes or saturated styrenic block copolymers; said layer having a 1 percent secant modulus of

greater than about 150,000 psi;
at least one second intermediate layer being a tie layer underlying the weatherable layer, said intermediate tie layer being adjacent to and adhered to the weatherable layer, said intermediate tie layer having a modulus of less than about 150,000 psi; said tie layer adherable to at least a third underlying layer; and
at least one third layer underlying the tie layer, said third layer adjacent to and adhered to the tie layer said third layer having a modulus of less than about 150,000 psi.

3. 5,318,619, Jun. 7, 1994, Polyurethane-based aqueous multicolor paint; James F. Lynch, et al., 106/311, 24R, 26R, 28R, 124, 163.1, 170, 190, 191, 203, 204, 209, 253, 401, 468, 482; 524/43 [IMAGE AVAILABLE]

US PAT NO: 5,318,619 [IMAGE AVAILABLE]

L32: 3 of 17

ABSTRACT:

An improved polyurethane-based water-in-water multicolor paint composition is provided having a disperse phase and a continuous phase which is characterized by an accelerated capacity to transfer from an applicator surface to a substrate surface during paint application. The disperse phase preferably is comprised of a water dispersible, inert film-forming, crosslinkable, polyurethane polymer system; hydroxy (lower alkyl) cellulose; quaternized water soluble cellulose ether; peptized clay and water. The continuous phase preferably is comprised of such a polyurethane polymer system, a water soluble, film-forming, crosslinkable, pressure-responsive contact adhesive, a peptized clay and water. Methods for preparing the paint are also provided.

4. 5,306,548, Apr. 26, 1994, Coextruded weatherable film structures and laminates; Vincent S. Zabrocki, et al., 428/215; 264/176.1; 428/2, 220, 408, 423.1, 424.6, 424.7, 424.8, 483, 517, 519, 521 [IMAGE AVAILABLE]

US PAT NO: 5,306,548 [IMAGE AVAILABLE]

L32: 4 of 17

ABSTRACT:

A coextruded weatherable film for lamination to an underlying nonweatherable substrate, including, for example, a two-layer film structure including an outer layer of a weatherable polymer that provides weather resistance such as ethylene/propylene/nonconjugated diene-reinforced styrene/acrylonitrile copolymer (AES) or butyl acrylate-reinforced styrene/acrylonitrile copolymer (ASA), coextruded over a **thermoplastic** underlying layer, for example, of a carbon black pigmented, UV stabilized polymer such as chlorinated polyethylene that provides UV protection for an underlying substrate such as vinyl siding or polymer layers.

5. 5,183,663, Feb. 2, 1993, Treating skin lesions; Richard W. Greiner, 424/443, 444, 448, 449 [IMAGE AVAILABLE]

US PAT NO: 5,183,663 [IMAGE AVAILABLE]

L32: 5 of 17

ABSTRACT:

Disclosed is a method of treating a skin lesion comprising applying to the lesion a dry bandage comprising a gas- and moisture-permeable, flexible, **thermoplastic** film impregnated with a pharmaceutical.

6. 5,069,577, Dec. 3, 1991, Flexible raised pavement marker; Patrick E.

Murphy, 404/11, 13 [IMAGE AVAILABLE]

US PAT NO: 5,069,577 [IMAGE AVAILABLE]

L32: 6 of 17

ABSTRACT:

Raised pavement marker useful in geographic areas where snow plows are used and comprising hollow base with an open bottom and dome top, characterized by:

A. base cross section being closed curved shape like cylinder;

B. dome having:

1) outer surface which approximates surface of rotation of a sine wave with highest point in middle of dome;

2) dome cross section is thickest near center and thinnest at periphery;

3) at least 2 ribs projecting from surface, to protect reflector which may be cube corner reflector affixed to dome;

C. material of construction which is an elastomer having T.sub.g no greater than -50.degree. C., preferably polyurethane compound containing a lubricating polymer, such as a silicone.

7. 5,066,705, Nov. 19, 1991, Ambient cure protective coatings for plastic substrates; Frank A. Wickert, 524/457; 428/411.1; 524/460, 832 [IMAGE AVAILABLE]

US PAT NO: 5,066,705 [IMAGE AVAILABLE]

L32: 7 of 17

ABSTRACT:

A water-dispersed protective coating composition contains a coreactive binder comprising a polycarbodiimide adapted to crosslink with a carboxyl functional emulsion copolymer and polyurethane. The coating is applied to plastic substrates and ambiently cured or with mild heat.

8. 4,762,751, Aug. 9, 1988, Flexible, chemically treated bundles of fibers, woven and nonwoven fabrics and coated bundles and fabrics thereof; Mikhail M. Girgis, et al., 428/378; 65/450, 451; 428/266, 268, 273, 375, 391, 392, 394, 395 [IMAGE AVAILABLE]

US PAT NO: 4,762,751 [IMAGE AVAILABLE]

L32: 8 of 17

ABSTRACT:

More flexible bundles of high modulus, low elongation fibers are provided by the impregnated bundles of the present invention. The flexible bundle of fibers comprise a plurality of fibers having a first treatment of a moisture-reduced residue of an aqueous chemical composition and a second treatment of a moisture-reduced, partially-cured impregnant of an aqueous chemical coating composition. The individual fibers in the impregnated bundle were first treated with an aqueous sizing composition having at least a fiber protectorant and optionally an antistatic agent and/or coupling agent. The impregnating composition has one or more elastomeric curable polyurethanes that are water soluble, emulsifiable or dispersible and one or more crosslinking materials that are water soluble, emulsifiable or dispersible and water. Optionally, there may be present one or more emulsifiable or dispersible lubricants, plasticizers, polymeric materials, and flame retardants. The flexible impregnated bundles of glass fibers are useful in reinforcing polymers and fiber optic and drop-wire cables and in producing woven and nonwoven fabrics where the fabrics can be coated with polymeric films.

9. 4,762,750, Aug. 9, 1988, Flexible, chemically treated bundles of fibers and process; Mikhail M. Girgis, et al., 428/378; 65/344, 447, 450; 428/375, 391, 392, 394, 395 [IMAGE AVAILABLE]

US PAT NO: 4,762,750 [IMAGE AVAILABLE]

L32: 9 of 17

ABSTRACT:

More flexible bundles of high modulus, low elongation fibers are produced by the impregnated bundles and process of the present invention. The flexible bundle of fibers comprise a plurality of fibers having a first treatment of a moisture-reduced residue of an aqueous chemical composition and a second treatment of a moisture-reduced, partially cured impregnant of an aqueous chemical coating composition. The individual fibers in the impregnated bundle were first treated with an aqueous sizing composition having at least a fiber protectorant and optionally an antistatic agent and/or coupling agent. The impregnating composition has one or more water soluble, dispersible or emulsifiable elastomeric polymers that are essentially free of hydrocarbon diene and chlorine functionalities, and one or more crosslinking materials that are water soluble, emulsifiable or dispersible, and water. Optionally, there may be present one or more emulsifiable or dispersible lubricants, plasticizers, polymeric materials, waxes, diene-containing latices and flame retardants. The flexible impregnated bundles of glass fibers are useful in producing woven and nonwoven fabrics where the fabrics can be coated with polymeric films.

10. 4,746,565, May 24, 1988, Fire barrier fabrics; Richard A. Bafford, et al., 428/251; 5/448, 459, 483; 156/93, 244.11, 308.4, 308.6; 297/DIG.5; 427/407.3; 428/102, 257, 268, 273, 285, 296, 423.1, 920 [IMAGE AVAILABLE]

US PAT NO: 4,746,565 [IMAGE AVAILABLE]

L32: 10 of 17

ABSTRACT:

A flame resistant fire barrier fabric comprising a preformed self-extinguishing **thermoplastic** face fabric laminated to an underlying glass fabric wherein the glass fibers are coated with a thin adherent encapsulating coating, and wherein the encapsulating coating substantially minimizes fiber to fiber self abrasion.

11. 4,567,090, Jan. 28, 1986, Heat-resistant laminate film; Masaki Ohya, et al., 428/214, 213, 215, 332, 337, 339, 424.2, 424.6, 522 [IMAGE AVAILABLE]

US PAT NO: 4,567,090 [IMAGE AVAILABLE]

L32: 11 of 17

ABSTRACT:

Disclosed herein is a heat-resistant laminate film comprising a gas-barrier layer of a copolymer of vinylidene chloride and at least one comonomer copolymerizable with vinylidene chloride, outer layers of polypropylene and two adhesive layers of polyolefin modified by acid and **thermoplastic** polyurethane, disposed between any of the above layers and bonded with each other, the modified polyolefin adhesive layer being bonded to the outer layer and the **thermoplastic** polyurethane adhesive layer being bonded to the gas-barrier layer.

12. 4,229,472, Oct. 21, 1980, Sheet material; Stuart P. Suskind, et al., 428/113, 151, 215, 218, 288, 296, 303, 310.5, 318.6, 904 [IMAGE

AVAILABLE]

US PAT NO: 4,229,472 [IMAGE AVAILABLE]

L32: 12 of 17

ABSTRACT:

Upholstery material and shoe upper material made from a base sheet of criss-crossing elastomeric polyurethane fibers running parallel to the surfaces of the sheet, said fibers being bonded together at their points of contact. In one preferred form the product has a preformed skin whose thickness is less than about 100 microns and preferably less than about 50 microns, such as about 20 to 40 microns and the skin is joined to the fibers of the base sheet by spaced fingers of a binder.

13. 4,076,879, Feb. 28, 1978, Sheet material; Stuart Paul Suskind, et al., 428/113, 151, 215, 218, 288, 296, 303, 319.7, 904 [IMAGE AVAILABLE]

US PAT NO: 4,076,879 [IMAGE AVAILABLE]

L32: 13 of 17

ABSTRACT:

Upholstery material and shoe upper material made from a base sheet of criss-crossing elastomeric polyurethane fibers running parallel to the surfaces of the sheet, said fibers being bonded together at their points of contact. In one preferred form the product has a preformed skin whose thickness is less than about 100 microns and preferably less than about 50 microns, such as about 20 to 40 microns and the skin is joined to the fibers of the base sheet by spaced fingers of a binder.

14. 3,976,731, Aug. 24, 1976, Method of decorating plastic surface by transferable imprint; Ales M. Kapral, 264/46.4; 249/112, 127; 264/54, 259, 293; 425/812; 428/914 [IMAGE AVAILABLE]

US PAT NO: 3,976,731 [IMAGE AVAILABLE]

L32: 14 of 17

ABSTRACT:

A sheet of organic material having a creped or ridged formation is first coated with a film of silicone resin and then overcoated with a layer of a flexible organic resin. Both coatings conform to the ridged surface. The sheet is positioned inside a mold cover. When a plastic mixture is foamed, the top surface of the molded object contacts the flexible organic material on the surface of the sheet and adheres thereto. When the cover is removed, and the sheet peeled off, the molded article has its top surface decorated with the flexible organic sheet material.

15. 3,912,569, Oct. 14, 1975, Coating substrate with thermosetting resin containing printed design; Ales M. Kapral, 156/230, 238, 240; 427/148; 428/530 [IMAGE AVAILABLE]

US PAT NO: 3,912,569 [IMAGE AVAILABLE]

L32: 15 of 17

ABSTRACT:

A substrate, such as a core of multiple phenolformaldehyde impregnated paper sheets, is coated with a layer of a thermosetting resin, such as melamine-formaldehyde, having a printed design on its undersurface. The substrate is coated by applying the thermosetting resin to a release sheet, printing a design on the resin surface, positioning the coated release sheet over the substrate, hot-pressing the resin to the substrate, and stripping off the release sheet.

16. 3,895,154, Jul. 15, 1975, Gas-release sheet; Ales M. Kapral, 428/153; 264/51, 316, 338; 425/817R; 428/184, 187, 447 [IMAGE AVAILABLE]

US PAT NO: 3,895,154 [IMAGE AVAILABLE]

L32: 16 of 17

ABSTRACT:

A sheet of organic material having a creped or ridged formation is first coated with a film of silicone resin and then overcoated with a layer of a flexible organic resin. Both coatings conform to the ridged surface. The sheet is positioned inside a mold cover. When a plastic mixture is foamed, the top surface of the molded object contacts the flexible organic material on the surface of the sheet and adheres thereto. When the cover is removed, and the sheet peeled off, the molded article has its top surface decorated with the flexible organic sheet material.

17. 3,862,261, Jan. 21, 1975, MELAMINE RESIN-POLYOL-POLYURETHANE COATING COMPOSITION AND ARTICLE COATED THEREWITH; Darrell D. Stoddard, 428/412; 427/375; 428/423.1, 502; 524/542; 525/443, 454, 456 [IMAGE AVAILABLE]

US PAT NO: 3,862,261 [IMAGE AVAILABLE]

L32: 17 of 17

ABSTRACT:

The coating compositions of the disclosure comprise:

1. A melamine resin of the tri- through hexa- substituted alkoxy ethers of formaldehyde- or acetaldehyde- melamine condensation products;
 2. a polyol; and
 3. a polyurethane; dissolved in a solvent which will evaporate when a coating of the composition is applied to an article, the weight ratio of the melamine resin to the polyurethane being about 8 to 1 and of the polyol to the polyurethane varying from about 2.5 to 1 to 1 to 1.
- Preferably, articles which comprise a substrate formed of a polycarbonate resin are coated with the cured coating composition.

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FILE 'USPAT' ENTERED AT 13:04:44 ON 02 MAY 95
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*           W E L C O M E   T O   T H E
*           U. S.   P A T E N T   T E X T   F I L E
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=> d acc 4272464

1. 4,272,464, Jun. 9, 1981, Method for preventing plasticizer bleeding on polyvinyl chloride shaped articles; Michihiko Asai, et al., 264/22; 204/167, 169; 524/507, 569; 525/129 [IMAGE AVAILABLE]

=> s 4272464

0 4272464/BI

0 4,272,464/BI

L1 0 4272464

((4272464 OR 4,272,464)/BI)

=> d acc 4657542

1. 4,657,542, Apr. 14, 1987, Medical instrument used for storage of blood; Yoshinori Ohachi, 604/410; 523/105; 524/114, 296, 297; 604/4, 5, 6, 262, 408, 409 [IMAGE AVAILABLE]

=> s 4657542

0 4657542/BI

0 4,657,542/BI

L2 0 4657542

((4657542 OR 4,657,542)/BI)

=> s 280/clas

L3 71507 280/CLAS

=> s steering wheel cover

37823 STEERING

163767 WHEEL

383413 COVER

L4 49 STEERING WHEEL COVER

(STEERING(W)WHEEL(W)COVER)

=> s steering wheel pad

37823 STEERING

163767 WHEEL

85145 PAD

L5 20 STEERING WHEEL PAD

(STEERING(W)WHEEL(W)PAD)

=> s 14 and 15

L6 0 L4 AND L5

=> s vinyl chloride and polyurethane and phthalate ester

120738 VINYL

256739 CHLORIDE

29830 VINYL CHLORIDE

(VINYL(W)CHLORIDE)

58907 POLYURETHANE

27659 PHTHALATE

133681 ESTER

518 PHTHALATE ESTER

(PHTHALATE(W)ESTER)

L7 80 VINYL CHLORIDE AND POLYURETHANE AND PHTHALATE ESTER


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=> s vinyl chloride and urethane and phthalic ester
    120738 VINYL
    256739 CHLORIDE

    29830 VINYL CHLORIDE
        (VINYL(W)CHLORIDE)
    35460 URETHANE
    25256 PHTHALIC
    133681 ESTER
        179 PHTHALIC ESTER
            (PHTHALIC(W)ESTER)
L8      10 VINYL CHLORIDE AND URETHANE AND PHTHALIC ESTER
=> d his
    (FILE 'USPAT' ENTERED AT 13:04:44 ON 02 MAY 95)
L1      0 S 4272464
L2      0 S 4657542
L3      71507 S 280/CLAS
L4      49 S STEERING WHEEL COVER
L5      20 S STEERING WHEEL PAD
L6      0 S L4 AND L5
L7      80 S VINYL CHLORIDE AND POLYURETHANE AND PHTHALATE ESTER
L8      10 S VINYL CHLORIDE AND URETHANE AND PHTHALIC ESTER
=> s 13 and 18
L9      0 L3 AND L8
=> s 15 and 18
L10     0 L5 AND L8
=> s vinyl chloride and urethane
    120738 VINYL
    256739 CHLORIDE

    29830 VINYL CHLORIDE
        (VINYL(W)CHLORIDE)
    35460 URETHANE

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L11     5400 VINYL CHLORIDE AND URETHANE
=> d his
    (FILE 'USPAT' ENTERED AT 13:04:44 ON 02 MAY 95)
L1      0 S 4272464
L2      0 S 4657542
L3      71507 S 280/CLAS
L4      49 S STEERING WHEEL COVER
L5      20 S STEERING WHEEL PAD
L6      0 S L4 AND L5
L7      80 S VINYL CHLORIDE AND POLYURETHANE AND PHTHALATE ESTER
L8      10 S VINYL CHLORIDE AND URETHANE AND PHTHALIC ESTER
L9      0 S L3 AND L8
L10     0 S L5 AND L8
L11     5400 S VINYL CHLORIDE AND URETHANE
=> s 13 and 111
L12     11 L3 AND L11
=> s 15 and 112
L13     0 L5 AND L12
=> s 14 and 112
L14     0 L4 AND L12
=> d 112 1-11

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1. 5,292,150, Mar. 8, 1994, Cover of air bag device; Kazuo Watanabe, et al., **280/728B**; 428/43, 135 [IMAGE AVAILABLE]

2. 5,195,773, Mar. 23, 1993, Cover for accommodating an air bag; Masami Sawada, et al., **280/728R**, **728B**, **731**, **732** [IMAGE AVAILABLE]
 3. 5,174,602, Dec. 29, 1992, Cover for accommodating an air bag; Yoshikazu Nakayama, et al., **280/728B** [IMAGE AVAILABLE]
 4. 5,152,551, Oct. 6, 1992, Steering wheel having impact absorbing member; Katsunobu Sakane, et al., **280/777**, **750** [IMAGE AVAILABLE]
 5. 5,110,647, May 5, 1992, Cover for a vehicle air bag; Masami Sawada, et al., 428/43; **280/728B**; 428/217 [IMAGE AVAILABLE]
 6. 5,069,477, Dec. 3, 1991, Pad for air bag device; Kouji Shiraki, **280/732**, **728B**, **731** [IMAGE AVAILABLE]
 7. 5,060,971, Oct. 29, 1991, Vehicle air bag cover; Yuichi Nanbu, et al., **280/728B** [IMAGE AVAILABLE]
 8. 4,852,907, Aug. 1, 1989, Pad for air bag device; Kouji Shiraki, et al., **280/731**, **728B** [IMAGE AVAILABLE]
 9. 4,421,343, Dec. 20, 1983, Knee panel for front seat and knee panel mounting structure for vehicle; Noritada Yoshitsugu, et al., **280/752**, 180/90; 296/70, 192 [IMAGE AVAILABLE]
 10. 4,400,011, Aug. 23, 1983, Vehicle body construction; Yoshio Matsuno, **280/748**, 180/90; **280/751**, **752**, 296/194 [IMAGE AVAILABLE]
 11. 3,907,330, Sep. 23, 1975, Safety apparatus for steering wheel assembly; Yutaka Kondo, et al., **280/731**, **734**, **736** [IMAGE AVAILABLE]
- => d 112 cit ab 1-11

1. 5,292,150, Mar. 8, 1994, Cover of air bag device; Kazuo Watanabe, et al., **280/728B**; 428/43, 135 [IMAGE AVAILABLE]

US PAT NO: 5,292,150 [IMAGE AVAILABLE]

L12: 1 of 11

ABSTRACT:

An air bag cover includes recessed portions for tearing the cover which are disposed to be spaced apart from each other in a row to the inner surface, each of the top ends of recessed portions in the direction of the row being pointed, toward each of adjacent recessed portions. The pointed top end is situated at a position deviated from a center for the recessed portion along a lateral direction of the recessed portion.

2. 5,195,773, Mar. 23, 1993, Cover for accommodating an air bag; Masami Sawada, et al., **280/728R**, **728B**, **731**, **732** [IMAGE AVAILABLE]

US PAT NO: 5,195,773 [IMAGE AVAILABLE]

L12: 2 of 11

ABSTRACT:

A cover for accommodating an air bag, which is provided at its inner surface with an array of spaced holes for starting tear at a start of an operation of the air bag, is characterized in that ends of the holes in the direction of the array have acute shapes converging toward the

adjacent holes, respectively.

3. 5,174,602, Dec. 29, 1992, Cover for accommodating an air bag;
Yoshikazu Nakayama, et al., **280/728B** [IMAGE AVAILABLE]

US PAT NO: 5,174,602 [IMAGE AVAILABLE]

L12: 3 of 11

ABSTRACT:

A cover for accommodating an air bag, which is provided at its inner surface with a tear line for starting tear at a start of an operation of the air bag. The tear line is extended up to edges of the cover.

4. 5,152,551, Oct. 6, 1992, Steering wheel having impact absorbing member; Katsunobu Sakane, et al., **280/777**, **750** [IMAGE AVAILABLE]

US PAT NO: 5,152,551 [IMAGE AVAILABLE]

L12: 4 of 11

ABSTRACT:

A steering wheel disposed in such a manner that an impact energy absorbing member made of sheet metal and having an upper wall portion and side walls extending downward from the two longitudinal end portions of the upper wall is fastened to the upper surface fo a boss portion and a pad is fitted to cover the impact energy absorbing member. The pad is provided with projecting portions made of a rigid synthetic resin, which are brought into contact with the portion adjacent to the two longitudinal ends of the upper wall of the energy absorbing member, formed on the reverse side of the upper wall of the pad. When impact force acts, from a substantially upper portion, on the central portion of the upper wall of the pad, the projecting portions assuredly crush the side walls of the energy absorbing member. As a result, impact energy can be assuredly absorbed.

5. 5,110,647, May 5, 1992, Cover for a vehicle air bag; Masami Sawada, et al., 428/43; **280/728B**; 428/217 [IMAGE AVAILABLE]

US PAT NO: 5,110,647 [IMAGE AVAILABLE]

L12: 5 of 11

ABSTRACT:

A cover for a vehicle air bag comprises an external surface layer injection-molded from a thermoplastic material having a JIS-A hardness of 20 to 90 and a core layer injection-molded from a thermoplastic material having a bending elastic modulus (JIS K 7203) of not less than about 1000 kg/cm.sup.2 and a hardness greater than that of the surface layer. The core has weakened zones along which the cover breaks when the air bag is inflated.

6. 5,069,477, Dec. 3, 1991, Pad for air bag device; Kouji Shiraki, **280/732**, **728B**, **731** [IMAGE AVAILABLE]

US PAT NO: 5,069,477 [IMAGE AVAILABLE]

L12: 6 of 11

ABSTRACT:

A pad for covering an inflatable air bag for use in an air bag device includes an insert member of a generally box-shape made of a synthetic resin. The insert member has an upper wall openable upon inflation of the air bag and four side walls extending downwardly from an peripheral edge of the upper wall. A reinforcing metallic member is embedded in at least the front and rear side walls of the insert member. A covering member

made of a soft synthetic resin covers the insert member.

7. 5,060,971, Oct. 29, 1991, Vehicle air bag cover; Yuichi Nanbu, et al., **280/728B** [IMAGE AVAILABLE]

US PAT NO: 5,060,971 [IMAGE AVAILABLE] L12: 7 of 11

ABSTRACT:

The front wall of a cover for a vehicle safety air bag has weakened zones along which the cover fractures upon inflation of the air bag. The weakened zones have lesser strength in portions nearer the center of the front wall and greater strength in portions farther from the center, thereby ensuring that fracture of the cover begins in the center and propagates outward from the center.

8. 4,852,907, Aug. 1, 1989, Pad for air bag device; Kouji Shiraki, et al., **280/731**, **728B** [IMAGE AVAILABLE]

US PAT NO: 4,852,907 [IMAGE AVAILABLE] L12: 8 of 11

ABSTRACT:

There is disclosed a pad for use in an air bag device enclosing an air bag which inflates in case of an accident. The device is mounted to mount members disposed around the bag. The pad is shaped like a box, and comprises an upper wall and side walls extending downward from the fringes of the upper wall. The pad is molded integrally with an insert on which a coat layer is formed out of a soft synthetic resin. The coat layer has a thin-walled portion that breaks when the air bag inflates. The thin-walled portion is disposed at a given position on the upper wall. The insert comprises a rectangular tubular base portion made from a synthetic resin and a plurality of flexible nets disposed on opposite sides of the thin-walled portion. The base portion is disposed inside the side walls. The nets are disposed on the upper wall and connected to the top of the base portion. An attachment portion for mounting the pad to the mount members and setting portions for setting the pad in a mold used to mold the coat layer are formed on the base portions.

9. 4,421,343, Dec. 20, 1983, Knee panel for front seat and knee panel mounting structure for vehicle; Noritada Yoshitsugu, et al., **280/752**; 180/90; 296/70, 192 [IMAGE AVAILABLE]

US PAT NO: 4,421,343 [IMAGE AVAILABLE] L12: 9 of 11

ABSTRACT:

A knee panel for a front seat of a vehicle, located under an instrument panel for protecting a driver and a passenger riding on the front seat, and a knee panel mounting structure which minimizes the deformation and displacement of the knee panel and its supporting member, when the driver's and/or passenger's knees make contact with the inner surface of the knee panel, by bearing the impact force on a front pillar side through a side bracket and on a floor side thereof through an L-shaped bracket, thereby directing the impact force as a load toward both the ends of the L-shaped bracket.

10. 4,400,011, Aug. 23, 1983, Vehicle body construction; Yoshio Matsuno, **280/748**; 180/90; **280/751**, **752**; 296/194 [IMAGE AVAILABLE]

US PAT NO: 4,400,011 [IMAGE AVAILABLE] L12: 10 of 11

ABSTRACT:

A vehicle body construction comprises a dash panel defining a passenger compartment, a car heater core having a casing which is securely connected to the dash panel and located within the passenger compartment, side panels formed connected to the dash panel, and an elongate knee restraining or protection member securely connected to at least one of the side panels and to the car heater core casing, and so positioned as to be strikable with the knees of a vehicle occupant during a vehicle collision, thereby rendering unnecessary various support members for supporting the knee restraining member onto the dash panel.

11. 3,907,330, Sep. 23, 1975, Safety apparatus for steering wheel assembly; Yutaka Kondo, et al., **280/731**, **734**, **736** [IMAGE AVAILABLE]

US PAT NO: 3,907,330 [IMAGE AVAILABLE]

L12: 11 of 11

ABSTRACT:

A safety apparatus for a steering wheel assembly of a vehicle comprises a base plate mounted on the hub member of the steering wheel assembly, an inflatable bag assembled on the base plate to be inflated by pressurized fluid supplied therein from a pressure source, and a container which comprises a breakable pad body mounted on the base plate to contain the inflatable bag therein and a separable cylindrical core element inlaid within the side wall of the pad body. The core element is formed by a plurality of plate members which are connected to one another and include transverse recesses at their lower portions respectively. When the pad body is broken by the inflated bag, the core element is separated and bent outwardly to support the bottom portion of the inflated bag by the steering wheel.

=> d 112 cit ab kwic 1-11

1. 5,292,150, Mar. 8, 1994, Cover of air bag device; Kazuo Watanabe, et al., **280/728B**; 428/43, 135 [IMAGE AVAILABLE]

US PAT NO: 5,292,150 [IMAGE AVAILABLE]

L12: 1 of 11

ABSTRACT:

An air bag cover includes recessed portions for tearing the cover which are disposed to be spaced apart from each other in a row to the inner surface, each of the top ends of recessed portions in the direction of the row being pointed, toward each of adjacent recessed portions. The pointed top end is situated at a position deviated from a center for the recessed portion along a lateral direction of the recessed portion.

US-CL-CURRENT: **280/728B**; 428/43, 135

DETDESC:

DETD(9)

While . . . for instance. Specifically, there can be mentioned thermoplastic elastomers and polyolefinic soft materials such as of olefinic, styrenic, polyester, polyurethane, **vinyl** **chloride** and polyamide type materials. A reaction-injection-molded **urethane** inserted with a net is also suitable.

2. 5,195,773, Mar. 23, 1993, Cover for accommodating an air bag; Masami

Sawada, et al., **280/728R**, **728B**, **731**, **732** [IMAGE AVAILABLE]

US PAT NO: 5,195,773 [IMAGE AVAILABLE]

L12: 2 of 11

ABSTRACT:

A cover for accommodating an air bag, which is provided at its inner surface with an array of spaced holes for starting tear at a start of an operation of the air bag, is characterized in that ends of the holes in the direction of the array have acute shapes converging toward the adjacent holes, respectively.

US-CL-CURRENT: **280/728R**, **728B**, **731**, **732**

DETDESC:

DETD(8)

For . . . kg/cm.sup.2 or more. Specifically, the material may be polyolefine contained soft material or thermoplastic elastomer containing olefine, styrene, polyester, polyurethane, **vinyl** **chloride** or polyamide. Rim-**urethane** including an inserted net is also preferable.

3. 5,174,602, Dec. 29, 1992, Cover for accommodating an air bag; Yoshikazu Nakayama, et al., **280/728B** [IMAGE AVAILABLE]

US PAT NO: 5,174,602 [IMAGE AVAILABLE]

L12: 3 of 11

ABSTRACT:

A cover for accommodating an air bag, which is provided at its inner surface with a tear line for starting tear at a start of an operation of the air bag. The tear line is extended up to edges of the cover.

US-CL-CURRENT: **280/728B**

DETDESC:

DETD(8)

For . . . kg/cm.sup.2 or more. Specifically, the material may be polyolefine contained soft material or thermoplastic elastomer containing olefine, styrene, polyester, polyurethane, **vinyl** **chloride** or polyamide. Rim-**urethane** including an inserted net is also preferable.

4. 5,152,551, Oct. 6, 1992, Steering wheel having impact absorbing member; Katsunobu Sakane, et al., **280/777**, **750** [IMAGE AVAILABLE]

US PAT NO: 5,152,551 [IMAGE AVAILABLE]

L12: 4 of 11

ABSTRACT:

A steering wheel disposed in such a manner that an impact energy absorbing member made of sheet metal and having an upper wall portion and side walls extending downward from the two longitudinal end portions of the upper wall is fastened to the upper surface fo a boss portion and a pad is fitted to cover the impact energy absorbing member. The pad is provided with projecting portions made of a rigid synthetic resin, which are brought into contact with the portion adjacent to the two longitudinal ends of the upper wall of the energy absorbing member, formed on the reverse side of the upper wall of the pad. When impact force acts, from a substantially upper portion, on the central portion of

the upper wall of the pad, the projecting portions assuredly crush the side walls of the energy absorbing member. As a result, impact energy can be assuredly absorbed.

US-CL-CURRENT: **280/777**, **750**

SUMMARY:

BSUM(9)

Furthermore, . . . considered feasible to employ a structure arranged in such a manner that the costly soft synthetic resin such as the **urethane** resin employed to manufacture the pad is replaced by a relatively cheap rigid synthetic resin such as polypropylene to reduce.

DETDESC:

DETD(6)

As . . . polypylene possessing a shape retention characteristic and a cover layer 18 made of a soft synthetic resin such as soft **vinyl** **chloride** for covering the insert 12. The pad body 11 further comprises a projecting portion 11c.

DETDESC:

DETD(41)

As . . . covers the outer surface of the insert 12 and which is made of a soft synthetic resin such as soft **vinyl** **chloride**.

5. 5,110,647, May 5, 1992, Cover for a vehicle air bag; Masami Sawada, et al., 428/43; **280/728B**; 428/217 [IMAGE AVAILABLE]

US PAT NO: 5,110,647 [IMAGE AVAILABLE]

L12: 5 of 11

ABSTRACT:

A cover for a vehicle air bag comprises an external surface layer injection-molded from a thermoplastic material having a JIS-A hardness of 20 to 90 and a core layer injection-molded from a thermoplastic material having a bending elastic modulus (JIS K 7203) of not less than about 1000 kg/cm.sup.2 and a hardness greater than that of the surface layer. The core has weakened zones along which the cover breaks when the air bag is inflated.

US-CL-CURRENT: 428/43; **280/728B**; 428/217

DETDESC:

DETD(4)

Thermoplastic materials suitable for the external surface layer 1A include thermoplastic elastomers based on olefin, styrene, polyester, polyurethane, **vinyl** **chloride** or polyamid; polyolefin-based soft materials, such as ethylene-vinyl ester copolymers (EVA), ethylene-.alpha.-olefin copolymers (especially those having .alpha.-olefins with from 3. . . copolymers; and soft polyvinyl chloride. These materials may be used alone or may be blended. Among them olefin-, styrene- and **vinyl** **chloride**-based elastomers are

desirable from the point of view of imparting a sense of softness to the cover.

DETDESC:

DETD(28)

In . . . applied to a thickness of 7-10 .mu.m by spraying and dried for 10 minutes at room temperature, and then a **urethane** top coat (Sakai Chemical Co., Ltd., MEX-6047: hardening agent F-3: thinner 58u=100:10:50) was sprayed to a thickness of 20-25 .mu.m. . .

DETDESC:

DETD(102)

In comparative example 10, an air bag cover consisting of a surface layer made of a high-density **urethane** foam and a core portion made of low-density **urethane** foam was made and evaluated. The core portion was molded by the RIM method at a low-foaming density and cured. . .

DETDESC:

DETD(106)

. . .
93
7 PP-2 4000 99 TPS-7 55
8 PP-4 12000 100 TPS-3 55
9 PP-5 500 86 TPS-3 55
10 **Urethane** RIM foamed -- without
net
11 **Urethane** RIM foamed -- with net

CLAIMS:

CLMS(2)

2. . . . the external surface layer contains a predominant amount of a member of the group consisting of olefin-based elastomers, styrene-based elastomers, **vinyl**--**chloride** elastomers, soft polyvinyl chloride, and combinations thereof.

6. 5,069,477, Dec. 3, 1991, Pad for air bag device; Kouji Shiraki, **280/732**, **728B**, **731** [IMAGE AVAILABLE]

US PAT NO: 5,069,477 [IMAGE AVAILABLE]

L12: 6 of 11

ABSTRACT:

A pad for covering an inflatable air bag for use in an air bag device includes an insert member of a generally box-shape made of a synthetic resin. The insert member has an upper wall openable upon inflation of the air bag and four side walls extending downwardly from an peripheral edge of the upper wall. A reinforcing metallic member is embedded in at least the front and rear side walls of the insert member. A covering member made of a soft synthetic resin covers the insert member.

US-CL-CURRENT: **280/732**, **728B**, **731**

DETDESC:

DETD(4)

The covering layer 20 is made of a soft synthetic resin such as **urethane**, and has an upper wall portion 21 and side wall portions 22, 23, 24 and 25 extending downwardly from the. . .

DETDESC:

DETD(5)

As . . . net 40 (thin metal material), and a resin body 30a which is made of a more rigid synthetic resin than **urethane** constituting the covering layer 20. Examples of such rigid synthetic resin include a polyamide resin, a **vinyl chloride** resin, and a polyolefin resin. The resin body 30a has side wall portions 32, 33, 34 and 35 embedded respectively. . .

7. 5,060,971, Oct. 29, 1991, Vehicle air bag cover; Yuichi Nanbu, et al., **280/728B** [IMAGE AVAILABLE]

US PAT NO: 5,060,971 [IMAGE AVAILABLE]

L12: 7 of 11

ABSTRACT:

The front wall of a cover for a vehicle safety air bag has weakened zones along which the cover fractures upon inflation of the air bag. The weakened zones have lesser strength in portions nearer the center of the front wall and greater strength in portions farther from the center, thereby ensuring that fracture of the cover begins in the center and propagates outward from the center.

US-CL-CURRENT: **280/728B**

DETDESC:

DETD(4)

The . . . greater than 1000 kg/cm², as determined according to Japanese Industrial Standard (JIS) K-7203. Suitable materials include olefin, polyurethane-, styrene-, polyester-, **vinyl chloride**-, and polymeric-based thermoplastic elastomers, polyolefin-based soft polymers, and net-reinforced RIM **urethane**.

8. 4,852,907, Aug. 1, 1989, Pad for air bag device; Kouji Shiraki, et al., **280/731**, **728B** [IMAGE AVAILABLE]

US PAT NO: 4,852,907 [IMAGE AVAILABLE]

L12: 8 of 11

ABSTRACT:

There is disclosed a pad for use in an air bag device enclosing an air bag which inflates in case of an accident. The device is mounted to mount members disposed around the bag. The pad is shaped like a box, and comprises an upper wall and side walls extending downward from the fringes of the upper wall. The pad is molded integrally with an insert on which a coat layer is formed out of a soft synthetic resin. The coat layer has a thin-walled portion that breaks when the air bag inflates. The thin-walled portion is disposed at a given position on the upper wall. The insert comprises a rectangular tubular base portion made from a

synthetic resin and a plurality of flexible nets disposed on opposite sides of the thin-walled portion. The base portion is disposed inside the side walls. The nets are disposed on the upper wall and connected to the top of the base portion. An attachment portion for mounting the pad to the mount members and setting portions for setting the pad in a mold used to mold the coat layer are formed on the base portions.

US-CL-CURRENT: **280/731**, **728B**

DETDESC:

DETD(2)

Referring . . . from the fringes of the upper wall 11A. A coat layer 12 made from a soft synthetic resin, such as **urethane**, is formed on an insert 13. The coat layer 12 on the upper wall 11A is provided with a substantially . . .

DETDESC:

DETD(4)

The base portion 14 is made from a rigid or semirigid synthetic resin, such as polyamide, **vinyl** **chloride**, or polyolefin. The base portion 14 includes a body portion 15 and an attachment portion 16. Retaining portions 17 are. . .

DETDESC:

DETD(34)

Furthermore, . . . pad 11 shown in FIGS. 1 and 2. A coat layer 72 made from a soft synthetic resin, such as **urethane**, is formed on the insert 73. The coat layer 72 overlying the upper wall 71A has a substantially H-shaped thin-walled. . .

DETDESC:

DETD(37)

The base portion 74 is made from a rigid or semirigid synthetic resin, such as polyamide, **vinyl** **chloride**, or polyolefin. The base portion 74 comprises the body portion 75 and an attachment portion 76. The body portion 75. . .

DETDESC:

DETD(45)

In . . . portion 84 and the attachment portion 86 are made from a rigid or semirigid synthetic resin, such as a polyamide, **vinyl** **chloride**, or polyolefin fiber, in the same way as the pad 11 described first. Therefore, the pad can be readily set. . .

9. 4,421,343, Dec. 20, 1983, Knee panel for front seat and knee panel mounting structure for vehicle; Noritada Yoshitsugu, et al., **280/752**;
180/90; 296/70, 192 [IMAGE AVAILABLE]

ABSTRACT:

A knee panel for a front seat of a vehicle, located under an instrument panel for protecting a driver and a passenger riding on the front seat, and a knee panel mounting structure which minimizes the deformation and displacement of the knee panel and its supporting member, when the driver's and/or passenger's knees make contact with the inner surface of the knee panel, by bearing the impact force on a front pillar side through a side bracket and on a floor side thereof through an L-shaped bracket, thereby directing the impact force as a load toward both the ends of the L-shaped bracket.

US-CL-CURRENT: **280/752**; 180/90; 296/70, 192

DETDESC:

DETD(6)

It is preferred that the knee panel 1, 14 be coated with buffer material such as **urethane** on the outer surface thereof and also with a **vinyl** **chloride** resin skin.

CLAIMS:

CLMS(4)

4. The knee panel of claim 2, wherein said knee panel element is coated with a buffer material and a **vinyl** **chloride** resin skin.

10. 4,400,011, Aug. 23, 1983, Vehicle body construction; Yoshio Matsuno, **280/748**; 180/90; **280/751**; **752**; 296/194 [IMAGE AVAILABLE]

ABSTRACT:

A vehicle body construction comprises a dash panel defining a passenger compartment, a car heater core having a casing which is securely connected to the dash panel and located within the passenger compartment, side panels formed connected to the dash panel, and an elongate knee restraining or protection member securely connected to at least one of the side panels and to the car heater core casing, and so positioned as to be strikable with the knees of a vehicle occupant during a vehicle collision, thereby rendering unnecessary various support members for supporting the knee restraining member onto the dash panel.

US-CL-CURRENT: **280/748**; 180/90; **280/751**; **752**; 296/194

DETDESC:

DETD(5)

A . . . covered with a suitable padding 27 as best seen from FIG. 4. The padding 27 is formed, for example, of **urethane** foam resin covered with a skin of **vinyl** **chloride** resin, or of a resin-molded member. As shown, both the restraining members 26a and 26b are aligned with each other. . . is secured to the cowl box panel 20. The instrument panel 28 includes a padding 28a formed, for example, of **urethane** foam resin covered with a skin of **vinyl** **chloride** resin. Each knee restraining member 26a, 26b is formed at its one end with flange sections

30a and 30b which. . .

11. 3,907,330, Sep. 23, 1975, Safety apparatus for steering wheel assembly; Yutaka Kondo, et al., **280/731**, **734**, **736** [IMAGE AVAILABLE]

US PAT NO: 3,907,330 [IMAGE AVAILABLE]

L12: 11 of 11

ABSTRACT:

A safety apparatus for a steering wheel assembly of a vehicle comprises a base plate mounted on the hub member of the steering wheel assembly, an inflatable bag assembled on the base plate to be inflated by pressurized fluid supplied therein from a pressure source, and a container which comprises a breakable pad body mounted on the base plate to contain the inflatable bag therein and a separable cylindrical core element inlaid within the side wall of the pad body. The core element is formed by a plurality of plate members which are connected to one another and include transverse recesses at their lower portions respectively. When the pad body is broken by the inflated bag, the core element is separated and bent outwardly to support the bottom portion of the inflated bag by the steering wheel.

US-CL-CURRENT: **280/731**, **734**, **736**

DETDDESC:

DETD(6)

The . . . suitable glue so that they are separable. The pad body 52 comprises a breakable body portion 52a made of hard **urethane** and the like having a U-shaped cross-section so as to contain integrally therein the hexagonal core element 51 and an outer layer 52b made of **vinyl** **chloride** which overlies the outer surface of the body portion 52a. To make the outer layer 52b breakable, provided are radial.